Matthew Zamieski

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A Ford Blue Oval Scholar

The University of Michigan-Dearborn **Dearborn, MI** **Graduation: May 2018**
Bachelors of Science in Engineering: Mechanical Engineering GPA: 3.0

Professional Work Experience

Lear Corporation **Southfield, MI** **May 2016 - Present**
Mechanical Engineering Intern – Hybrid Systems

- Designed experiments to determine whether natural or forced convection is needed for the heatsinks on 7 kW and 11 kW vehicle charging systems.
- Led the selection of thermally conductive/electrically insulating material resulting in a cost savings of 40%.
- Conducted thermal tests validating the design of inverters to meet customer requirements.
- Composed a Geometric Dimensioning and Tolerancing (GD&T) stack up report, resulting in the discovery of tolerancing issues with the initial designed housing.

(FSAE-E) Formula Society of Automotive Engineers - Electric **Dearborn, MI** **Sept. 2014 - Present**
Team/Engineering Captain July 2016 – July 2017

- Managed a team of 25 members ensuring project progression from each sub team resulting in a 12th place finish at the largest full electric competition in North America.
- Compiled design reports and presented to a panel of industry professionals discussing and validating all design directions of the vehicle.
- Created the full vehicle assembly ensuring that all sub teams components could be integrated with each other.

Mechanical Engineering Lead July 2015 – July 2016

- Led the overall mechanical system of the University of Michigan-Dearborn FSAE-Electric team.
- Developed vehicle design targets by evaluating point mass simulations.
- Restructured the mechanical cost report, which details an estimated mass production cost of the vehicle, resulting in a 40% decrease from the previous year's cost.

Vehicle Dynamics Lead Sept. 2014 – Present

- Coordinated the design, manufacturing and construction of all suspension, braking and steering systems.
- Generated FEA and dynamic simulations to establish and validate suspension design parameters.
- Designed and documented a new suspension system focused on optimizing weight transfer and camber gain.
- Conducted topology simulations on suspension components resulting in a 35% reduction in mass.

Professional Skills Profile

Design/Simulation Software

- Catia V5
- SolidWorks Design (14,15,16,17)
- SolidWorks Simulation (14,15,16,17)
- solidThinking Inspire 2017
- ANSYS SpaceClaim

Courses Taken

- Automotive Engineering (ME 4981)
- Finite Element Method (ME 410)
- Engineering Dynamics (ME 325)
- Heat and Mass Transfer (ME 375)
- Control System Analysis (ME 442)

Related Class Projects

Wide Open Throttle Analysis of a Vehicle (ME 4981)

- Created a mathematical model of a vehicle using powertrain kinematic equations.
- Generated a Driving Conditions Diagram to identify ideal shift points, top speed and the powertrain efficiency compared to the maximum power curve.

Numerical Heat Transfer During Manufacturing (ME 375)

- Developed a mathematical model of the temperature gradient through a piece of aluminum being sheared with finite difference method.
- Programmed the finite difference method equations for 300 nodes using MATLAB, generating the temperature gradient for the aluminum sample.